5-1-1999

La Pipistrello

Maria Rosini

"La Pipistrello"

by

Maria Rosini

Submitted in Partial Fulfillment of the
Requirements for the Degree
MASTER OF FINE ARTS

MFA Imaging Arts/ Computer Animation
SCHOOL OF PHOTOGRAPHIC ARTS AND SCIENCES
ROCHESTER INSTITUTE OF TECHNOLOGY
ROCHESTER, NEW YORK
MAY, 1999

Marla Schweppe, Chair
Associate Professor
Film/Video/Animation Department

Carl Battaglia
Professor
Film/Video/Animation Department

Luvon Sheppard
Professor
Fine Art Department, School of Fine and Applied Arts

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TITLE OF THESIS: La Pipistrella

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5/18/99

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INTRODUCTION

When I first conceived "Belfry" I was taking an animation elective in my undergraduate program. Several times over the next four years he resurfaced as a character in small projects, developing personality, poise, and history. The process of developing a thesis story had me racking my brain for weeks. Part of me wanted to resurrect the bat that had so loyally served me in the past, and part of me wanted to let go. I chose yet another encore performance.

I admit it wasn't my idea initially to make this an opera. I had a story, but it was missing something. The comment of a fellow classmate was like a match striking the flint. He asked me if the bat was Italian. How he kept imagining him singing in Italian. Opera! It all came together that night. I researched Puccini, Rossini, all of the "greats". The themes that kept repeating themselves floated like a ribbon through the operas, making them dramatic, tragic and oh, so Italian. I shaped my story into a romantic tragedy. An impossible love, a chase scene and lament. The only thing I was missing was a great score. I had decided to complete the soundtrack first to give myself more structure around which to animate. Being able to listen to the music as I animated helped keep my ideas fresh, and kept me from wandering too far off track. I feared that my three minute movie would turn into the monster I had seen other thesis students shackled to for more years that I care to discuss. Certain boundaries kept me on track and my work moving forward. I needed a composer who was technically skilled and open to creative collaboration. I decided to advertise at the Eastman School of Music for a student willing to work with me.

My previous two movies had no music to them. I knew this one would not survive without a score. So, I needed something,.. amazing. I plastered the Eastman School of Music with so many neon posters Christo would be proud. The stars must have been with me, because the composer I found was one in a million. He ripped off the phone number from one of my posters, only slightly interested in the job. After losing the minuscule piece

of paper, he almost dismissed it entirely. But, for some reason, went to the IT home page and scrolled through the "R's" only remembering the first letter and that it "sounded Italian". He found me. Rather, we found each other. Working with Ben Newhouse was an amazing experience. Highly enthusiastic, and hopelessly romantic like me, Ben saw music like I saw animation-a collaboration was inevitable. Ben was able to create a beautiful score for my project, one that grew as did the animation. I had not however, prepared myself for the icing on the cake: the voice. A friend of Ben's Jason Bridges, was excited as a twelve-year-old kid going to Disney World when I met him in the recording studio. And I was just as excited, and awestruck, having to pick my jaw up off the floor from when he first opened his mouth. All I kept thinking of was, "This is all for MY project.". Over and over again I kept repeating it in my head. I was blessed with a highly talented composer and an angelic voice. I only prayed that I could make it come to life successfully, paying full tribute to Ben's creation. I had a solid story, I had a soundtrack worth crying for, and I had the whole summer ahead of me. I decided to first tackle the environment. That is, build my cathedral.

THE CATHEDRAL

My obsession with cathedrals goes back many years. I had read a novel about the building of a cathedral in grade school, fascinated by the time and effort it took. In studying the techniques and symbolism attached to these monsters of the Middle Ages, my interest grew. I understood that, as the cathedral grew, so did the town around it. People came in search of work, and settled around the building site like baby birds nestling close inside the safety of their mother's wings. It brought people together and formed their communities. Much like a family comes together around a dinner table to enjoy food, conversation and comfort. Part of the feeling I want to convey in the this story of tragic love is, above all there is always a safe-haven for the broken-hearted. The whole story happens within its

walls. And while most people see reverence and silence in such places, there is also humor. Even in the most foreboding and serious church. At least, *I* have always found it there. (Eventhough it always seemed to be at the most inappropriate of times....)

I had so many pictures in my head of what my cathedral would look like. A paragon of strength, beauty, and shadows. Just like the hundreds of master architects and artisans of the Middle Ages, I approached my daunting task with reverence. I began on July 6, 1998 with library research. What kind of style? How was I going to begin? I had decided to build it in Alias|Wavefront. Creating the virtual stage for my movie in a 3D world would give me the freedom to move a camera around, and set up my shots as needed. Since I was drawing my characters by hand, I had wanted to use a combination of 2D and 3D animation, and this seemed to be the best way. My cathedral started out small, but grew in proportions every day(and in every way). Solving small problems like how to connect two walls and where to place the pillars had my floorplans shifting like a game of chess. By making lists of problems and questions at the end of the day, I began each new day tackling the most important things first. Some of the largest problems I had to face were creating the jigsaw puzzle my cathedral turned out to be. After building the floors, pillars and arcade, how then, was I going to add the clerestory level? And how would that flow directly into a double-vaulted ceiling? I realized the image in my mind had as many tiny holes as a colander, not enough for the whole idea to slip out, but it still couldn't hold water. Two days into the modeling I was making it bigger, realizing the layout didn't correspond to the shots I had wanted to put in it. So things were constantly changing.

The wonderful world of 3D modeling allowed me to construct a cathedral that would have crumbled to the ground had it *really* been attempted. Thanks to Alias, major changes could be made along the way as walls were added and I figured out how to create the vaulting by approaching the geometry in different ways. By the end of July, I was considering the back wall. How was I going to close it off? And the door-we're talking a *cathedral* door! Would it be plain, or intricately carved? How much was it *really* going to

be shown in the movie? Since it was not prominently featured, I opted for plain. I was also concerned with the characters showing up in front of the 3D world. At this time I began making preliminary sketches of the girl from video I shot of myself, acting out the girl's movements. So, while I was drawing my first sketches, I was also modeling candlesticks, an altar, and adding small refinements to pillars, and beveling and rounding sharp corners.

In modeling the barrel-vaults for the center of the transepts, I intersected two tunnels. Thus, solving the complicated geometry problem I had previously been faced with. This however, created another problem. The opening that faced the nave was on a different level than the ceiling vaults, so I had to construct a wall to connect the two, and trimmed out a small opening above the tower vault creating a small rose window mirroring the larger one on the west wall.

Meanwhile, in considering the "props", such as pews, candles and other such cathedral-related accessories, I watched movies that combined 2D and 3D and noticed most of the objects (particularly the ones with which characters were interacting) were drawn in 2D as well. This also allowed the characters to blend in with the background smoothly. Other objects that weren't directly interacting with the characters were modeled like the altar, candlesticks and candletray.

I spent a considerable amount of time on the lighting. I wanted dramatic shadows but not so much as to overpower the characters. For the candles, I used point lights placed over a modeled geometric flame made from a stretched sphere with a ramp shader. Renders kept producing a red glow towards the bottom of the candle. I solved that by altering the ramp. I then placed spotlights around the statue (one cool, one warm) and above the altar, throwing a dramatic shadow of the cross on the back wall of the apse. Two larger "nave spots" helped neutralize it a bit, and cool spots coming in the windows illuminate the stained glass color maps. Stone bump maps on the walls and a green and black checkered floor with a noise map helped complete the atmosphere. I was having trouble rendering out the pillar and buttress shaders. Again, help from a friend showed me how to open up the

texture files in a program called 55, and save them as 24-bit color. Also, by changing the pillar shader from a displacement map to a bump map helped normalize distorted geometry.

My next test was modeling the statue. I had yet to successfully model a head, and was determined to try again. I had four files, each using a different technique said to work by various sources. The first three attempts were futile, further convincing me Alias Wavefront was a secret device made to drive all prospective modelers insane. My fourth and final attempt was the most successful. This, I was satisfied with, knowing the damn thing wouldn't have to be animated anyway. Once I had finished the head and head-cloth, (solving the problem of modeling ears and hair..) I dealt with the hands. The Alias conspiracy plot was thickening as my confusion grew and my beautiful statue's hands looked like nothing more than twisted plastic straws. I felt by this time, that I was walking around in Alias shackles, entangled in a web of cv's and setting my clock to the daily wipe of the render partition. Finishing a pair of hands I was happy with required patience, rather, patience on the part of the poor guy sitting next to me. Moving to the torso, the shoulder blends wouldn't cooperate either, so I made a simply-skinned robe-shift thing and tossed it over her "floating arms". Creating some matronly furls in the skirt were easy, and my statue was ready for exhibition.

Adding the stained glass windows involved re-modeling the walls, thus forsaking the originally modeled "dome-windows" I had been so previously proud of. Anyway, I created a 3D frame for the windows, and brought in the stained glass color maps, turning up the transparency so that the cool lights from outside would be filtered in.

By this time, the shot-gathering had begun. My 2D was ready to be tested with the backgrounds, and I needed lists of shots I would need to render. As I saw the initial camera movements, I noticed that the cathedral would have to be elongated and widened yet again. My project seemed to be following some inane ripple-effect I could not comprehend. A shot outside the cathedral presented a new problem. Finishing off the outside of the cathedral was not something I had time for. After several attempts, and in conversing with

advisors, I felt my time would be more wisely spent drawing and scanning. Much remained to do. By Halloween as promised to my composer, I had produced a rough cut.

2D ANIMATION

Classical animation had been the reason I entered this field of study in the first place, and what ultimately convinced me to include it in my movie. I had taken the Alias classes, and produced some good work. But I always missed drawing. The thrill of seeing something I had drawn come to life was never quite there when I watched my 3D animation. So, I decided to build my background in 3D and draw my characters. I started with research. I found video and sketching to be the best preparation for 2D animating. Watching movement in slow motion and studying other animation frame by frame for timing and staging helped me decide the best way to present my characters within this 3D world.

My human character, Veronica, was first. I had a friend shoot live video of me acting out Veronica's movements. This proved to be an invaluable source of reference to me in animating. I began with the walk cycle. The design of the girl is simple and fluid. I wanted her to look as human as possible, mimicking a realistic body shape instead of creating a magazine nymph. By importing the video into Premiere, I exported the footage as a filmstrip file and was able to print out frame by frame. This gave the movement a realistic timing I'm not sure I could have achieved any other way. The walk cycle had some looping problems that needed several revisions before I was satisfied. I tried to give her individualistic movement by making sure the secondary movements of her hair and dress were successful. She is a reactive character, and I was adamant to make her expressions as dramatic as possible.

I knew that animating the bat was going to be more of a challenge than animating a human being. But I felt that a relationship had already been established, and new research

was what I needed. My first consideration was movement vs. design. In order for Belfry to move like a bat, he would have to be built more like a bat. Initially, he was very simple and cuddly. I realized his wings and the webbing in between were things that needed to be shown in animation and I had to figure out a consistent way of building him. In effect, I had to create a three-dimensional model of what he looked like in my head, so that he moved within the space, and not just on top of it. I invested in a bat video and was able to see more accurately how bats move. (I am now a member of Bat Conservation International and realize how important bats are to maintaining a healthy ecosystem). After ascertaining his structure, he needed personality. I had been developing this character for years, but his personality evolved constantly. My bat was based on a friend with whom I was particularly amused, but he quickly took on a life of his own in my drawings and doodles. Watching operas on TV also gave him the necessary attitude it took to fill his role next to the great tenors of the stage. In essence, Belfry is the quintessential last-born child. A natural performer, drama queen and hopeless romantic. This movie is after all, an opera.

In animating Belfry, I started with simple flight from the sides, then the front and back. In scenes where he is on the ground, or not actively flying, I had to take artistic liberties on how I thought a bat would move *if he could.* Lip-synching the song was difficult to do, but probably the most fun to draw. I couldn't stop thinking about Pavarotti, strutting around the stage like a peacock. The bat's character actually grows in rotundity for that scene. The frantic, desperate chase scene took a lot of consideration. What shots to make, where the most dynamic angle was and if it was possible to synch with 3D.

The mind-numbingly slow process it took to draw, scan, and clean up the 2D animation sometimes almost forced me back into the Alias lab. But not quite. After drawing and scanning in the pictures, I imported them into Director where the animation was tweaked and then exported as a PICT sequence. I thought about using Quicktimes instead, but felt more comfortable and flexible in Avid with the PICT sequences. I had more freedom to edit the animation, adding a freeze frame in the middle of a scene or changing

the duration of a shot (which I did *frequently*). Twelve weeks of scanning and cleaning up followed. I realized halfway through this arduous process I could have forgotten my love of the rough pencil lines, scanned the pictures in as 1-bit and saved myself weeks of erasing the gray matter haloing every picture. I experimented with composting in Adobe After Effects, finding it much better than the YUV Luma Key effect in Avid. It also gave me more freedom to work on compositing the 2D "props" into scenes that would need several channels in Avid as well. So, each drawing was lovingly touched up, colored and shaded in Photoshop doubtlessly sending me well on my way to having full-blown Carpal Tunnel Syndrome.

By March 10th I had 24 shots. One frustrating session on the Avid was a clear indication to me that I would be spending a lot more time than before on the editing station. Batching actions saved me time in Photoshop adjusting the brightness and contrast, resizing, and creating new layers for the blue screen I would drop out during compositing.

COMPOSTING , RENDERING AND EDITING

If I learned anything from my first editing session, it was that shooting all of my scenes against a still background is fine, but dynamically stagnant. I decided that placing an animated camera into my movie would increase the dynamic of the movement and the soundtrack. Because of the length of time it took to render out each frame in Alias (2.5 hours) I was stifled by the amount of time an animated camera shot would take. I tried to work in some short one second pans at the beginning, middle, and end of the movie to satisfy some sense of dynamics. I also found that through discussion with other students I could cut down my rendering time by making subtle changes in my cathedral file without sacrificing too much quality. For example, by turning down the reflectivity on my Blinn shaders, it would dramatically reduce the rendering time as well as the file size. The one scene I had been struggling with for weeks was an animated camera pan for the "chase

scene". The original cathedral file was too short for a two-second pan, so I created another file of a cathedral, and tripled the length. I deleted all other geometry not in the shot and was hopeful that was all there was to it. Unfortunately, it wasn't. Apparently, tripling the length also tripled the rendering time, and until I figured out that I had also tripled the number of point lights, I was utterly stumped. I turned off the point lights, and turned up the glow on the flame geometry, still achieving the desired lighting. This slashed my rendering time down to 10 minutes a frame, and allowed my total frustration with Alias settle into a numb indifference for a while.

Two more weeks of finishing the clean-up, surviving the near-death experience of a beloved machine, and learning how to use After Effects provided the constant state of hilarity and android-alacrity needed to be a successful thesis student and hopeful role model to the poor saps just beginning their thesis. As my affection for Avid grew, so did my respect for editors in general, especially when I realized I would never be hired as one. UNTIL yet another problem set me back. I had no sooner decided to change the name from "A Batty Opera" to "La Pipistrello", than my sequence in Avid disappeared. I had to start my editing over. This I took as a sign and promised myself that it would be even better than before. A new name and an improved project. I had to add a scene, which required scanning and coloring. I however, made it easier on myself this time and was able to finish in two days. My next plunge into a 2D project will doubtlessly be super-efficient and most excellently planned, until I create another set of problems for myself.

CONCLUSION

The last ten months of work has gone from "just another project," to a labor of love. This piece adequately ties together the skills I have learned in school with the personal growth I have been confounded with for the past three years. It seems this opera is a story within a story and one perfectly complements the other. My influences most frequently

come from childhood, and mine consisted of Disney movies. The story structure and likeability of the characters are essential ingredients in successful piece. Humor also plays a major role in my work. I have always tried to find humor in the least likely situations. That is where an artist has the greatest opportuntiy to show the audience something they have never seen before. The seriousness of an older woman gripping rosary beads at Sunday mass or an orchestra composer writhing spastically with his back to the audience are humorous to me. Combining both environments married two situations I felt was both humorous and exciting. By also combining 2D and 3D animation, I was faced with an adventure in space. How could I use the space I was confined to on a 3D stage, when I also had the limitless possibilities of my own pencil? Placing the drawn characters *within* the 3D space and making them look like they *belonged* there was difficult, but successful in my mind.

This story is about two different worlds. A bat living in a church, and a woman distraught by an unknown sadness. A friend mentioned to me that the characters are never in the same shot at once. I felt that by keeping them apart further emphasized to the viewer how unlikely the match is. I do not think this is a tragic story. It is three minutes in the life of the viewer. Three minutes later they will be thinking about something else, and Belfry will be chasing another woman. Belfry's last appearance is exactly how he would have wanted to go(chasing a beautiful woman and finally learning Italian). I begin every project with the hope that I will leam something new. Interests I have are given the opportunity to show themselves visually through my work. A lifelong obsession with cathedrals, and the search for humor within grave seriousness are two things I was able to explore. Technically, I can see with greater clarity the things I need more work on such as drawing and timing. To be able to immerse myself in a world of personal interests for ten months has been a great adventure and a monumentous achievement. I feel that I am only beginning to define myself as an animator, and this project was a pleasurable initiation.

Appendix A: Thesis Proposal

Treatment

The sun sets through the stained glass windows of a dimly lit cathedral. Bats awaken and begin to stir high in the rafters. As the daylight slowly fades, the bats begin to fly through a hole in a broken window, eager to feed. One bat, Belfry, slowly awakens, rubs his eyes and watches them leave with a dreamy look. He also slowly prepares to leave, stretching his wings and yawning. While he stretches, the slow creak of a large, heavy door opens and a shadow appears in the doorway at the back of the cathedral. Heels clicking on the marble floor, the figure appears and walks towards the front of the church, head down. Belfry flies to a lower vantage point to get a better look. He sees a woman in a long skirt and white shawl. Her long brown hair spills over the shawl and down her back. Belfry's eyes grow wide and a longing look spreads across his face. His wings stop flapping and he falls out of the frame. Catching himself, he reemerges, puffs out his chest and flies to her. Now standing in front of the statue, the woman crosses herself and kneels. Belfry flies right over her, missing embracing his love and slams right into a pillar. He slides down and lands in a broken heap of wings on the floor. He begins to limp towards her when she strikes a match and lights a candle. Shrinking back, Belfry shields his eyes from the flame. The woman clenches her hands and bows her head, her lips moving silently. An upside-down hymnal clumsily slides towards her feet, concealing Belfry. His head peeks out from under the book and he stands up confidently, flinging the book back. He whispers the words, "My love." to her. Her eyes open, and she turns around quickly, searching the back of the church for someone, repeating the phrase, but taking no notice to the small bat at her feet. Seeing no one, she turns back to the statue and begins to weep into her hands. Sighing in frustration, he resumes his confidence and flies to the base of the statue. As she weeps with her head down, he begins to sing to her, wings outstretched. She looks up at him through tearful eyes and screams. He is startled and comes closer trying to explain, but falls off the ledge. The force of his wings catching himself snuffs out the candles as she turns to run. He regains his flight and follows her, singing. Her shawl flies off while she flees and ensnares Belfry in mid-air. The bundle falls and Belfry tries to untangle himself, singing the whole time. A door slams at the back of the cathedral and Belfry stops, one foot still stuck in the shawl. He laments, turning and embracing the shawl. He smells it deeply and turns longingly toward the door. Belfry is left alone as a single spotlight shines on him and we see the how small he is compared to the enormity of the cathedral. The sound of the bats returning causes Belfry to look up, sorrowfully, he leaves the shawl and flies back to the safety of the shadows.

As stated by the title, this is a comic opera, a story of unrequited love combined with gags and musical score. Close collaboration with a composer from the Eastman School of Music is also important. I intend to produce this using mixed media. The cathedral will be modeled in 3D as well as the basic forms of the characters. These forms will be animated through the 3D software, then transferred to the Macintosh and drawn over in Photoshop. These will then be re-composited and edited on the Avid. I will be working closely with the composer to establish key points and movement using the tempo of the music chosen. I intend to create a dark, highly shadowed environment to emphasize the operatic environment.

THESIS BUDGET		In Kind	Actual
Art Supplies		$20.00	$0
Digital Media (2 Jazz Disks)		$200.00	$200.00
DVCam Tape		$40.00	$40.00
VHS Cassettes (10)		$45.00	$45.00
Avid Edition Time (20 hrs @ $265/hr)		$5,300.00	$0
Power Macintosh		$1,500.00	$0
Adobe Photoshop		$600.00	$0
Silicon Graphics Indigo Workstation (400 hrs @ $100/hr with Alias 8.5)		$4,000.00	$0
Musician Fee		$1,500.00	$500.00
Sound FX Composition (10 hrs @ $50/hr)		$500.00	$0
Labor (600 hrs @ $10/hr)		$6,000.00	$0
Voice Talent (4 hrs @ $10/hr)		$40.00	$0
Total		$19,745.00	$785.00

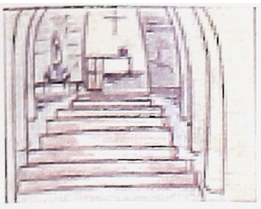
TIMELINE

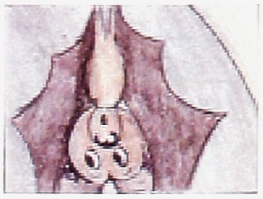
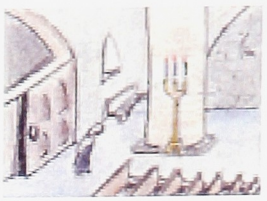
April 13-May 23		Research/Story Development Character testing Background Design Storyboards Initial meeting with composer
Summer July 1-17		Build Backgrounds
July 17-31		Model Characters
August 1-20		Second meeting with composer/map out key shots.
Fall Quarter (5 Credits) (4+1 summer)		Animate 2 shots/week Third Meeting with composer Alpha version with 3D animation done
Winter Quarter (4 Credits) Dec 1-20		Draw over characters on Macintosh Assemble shots Fourth meeting with composer Beta version with 2D animation
Jan 1-Feb 20		Voice/FX Recording and composition Final Assemblage of shots Start editing
Spring Quarter (3 Credits) March 1-April 1		Editing and Composition
April 1, 1999		Project Completion

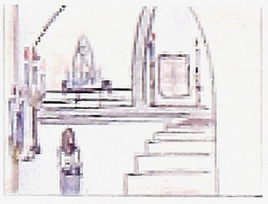
MARKETING PLAN

Student Academy Awards		February 1999
Movies on a Shoestring		February 1999
Brussels Cartoon and Animated Film Festival		February 1999
SIGGRAPH		Early March
NextFrame		April 30, 1999
International Animation Festival and Market		Late February
Ottawa Student Animation Festival		July 1999
RAVA		Late June
IFC		May 1999
Black Maria Film Festival		Late November

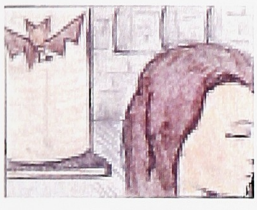
Appendix B: Storyboards











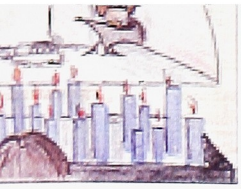






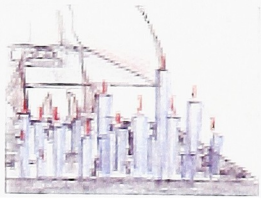








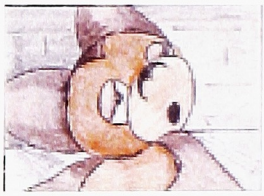
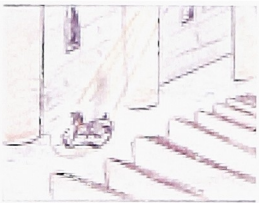
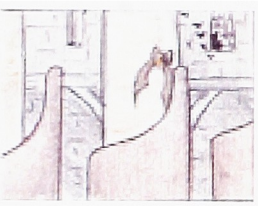








Appendix C: Color Stills